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ABSTRACT

Four training courses developed under the Job-Oriented Basic Skills (JOBS) program were evaluated to determine whether they could compensate for the skill deficiencies of lower aptitude Navy personnel. The JOBS program was designed for personnel who scored in the lower mental aptitude categories on the Armed Services Vocational Aptitude Battery to increase their mastery of the skills and knowledge deemed to be prerequisites for success in Class "A" technical schools. Volunteer recruits were randomly assigned to two groups: JOBS direct-track and JOBS delayed-track (completion of apprenticeship training and time in the fleet prior to JOBS training). Control groups were also specified. Of 1,551 students who attended JOBS school, 1,493 (96 percent) graduated. The JOBS delayed-track group had a higher percentage of attrition from JOBS school than did the JOBS direct-track group. Class "A" school data for 1,256 JOBS graduates showed that 996 (79 percent) graduated and 260 (21 percent) attrited. Comparable figures for the "A" school comparison group were 90 percent and 10 percent. Thirty-three months after JOBS and comparison groups had graduated from "A" school, the "A" school group had over twice as many fleet discharges, thus reducing the total loss rate between the two groups to 3 percent. (YLB)

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JOB-ORIENTED BASIC SKILLS (JOBS) TRAINING PROGRAM: AN EVALUATION

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Reviewed by
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This report describes the evaluation of four training courses developed under the JOBS program for Navy personnel whose ASVAB scores were below the minimum required for entry into selected Navy Class "A" technical schools. The training courses were designed to increase their mastery of the skills and knowledge deemed to be prerequisites for success in these schools. Data indicates that the JOBS program has the potential for attenuating Navy technical manpower shortages and contributing to minority upward mobility.

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FOREWORD

This research and development was conducted under advanced development task area Z1176-PN (Individual Technical Training), work unit Z1176-PN.03 (Improved Performance Through Instruction in "A" School-related Basic Skills) and was sponsored by the Chief of Naval Operations (OP-01). The objective of the work unit is to develop a job-oriented basic skills (JOBS) training program and to determine whether this program can compensate for the skill deficiencies of lower-aptitude personnel such that they can successfully complete Navy technical schools and perform to standard in the fleet.

This report is the third in a series concerning the JOBS training program. The first report (NPRDC Tech. Rep. 81-24) described program development activities; and the second (NPRDC Tech. Rep. 82-14), an interim evaluation. The data in this report supersedes those provided in NPRDC Tech. Rep. 82-14. Future reports will describe the final evaluation and cost/benefit analysis of the program.

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SUMMARY

Problem and Background

Although recent improvements in compensation and benefits are reducing the attrition problem, the Congressional Budget Office is still forecasting a shortfall of Navy high school accessions of about 5 percent per year through 1986. This is attributed to Congressionally mandated limits on entering recruits scoring in the lower mental aptitude categories on the Armed Services Vocational Aptitude Battery (ASVAB). To address this problem, job-oriented basic skills (JOBS) curricula were developed for four content strands covering preparatory training for 12 Class "A" schools.

Objective

The objective of this effort was to evaluate the job-oriented basic/prerequisite skills training program to determine whether it can compensate for the skill deficiencies of lower aptitude personnel such that they can successfully complete Navy technical schools and perform to standard in the fleet.

Approach

Between the period from May 1977 through June 1981, a total of 5,326 JOBS-eligible candidates were identified during recruit classification and briefed on the JOBS program. All candidates were below the allowable ASVAB waiver limit for the "A" school for which they were being considered but within the range established for JOBS eligibility for a particular rating. Of those briefed, 3,018 volunteered for the JOBS program. These recruits were randomly assigned to two groups: (1) JOBS direct-track (N = 1,216), who were to enter JOBS training immediately following recruit training, and (2) JOBS delayed-track (N = 1,802), who were to complete apprenticeship training and spend some time in the fleet before commencing JOBS training. Data (demographic, performance, attrition, etc.) collected for the two JOBS groups were compared with those collected for three comparison groups: A fleet control group, comprised of the JOBS-qualified recruits who did not volunteer for the program (N = 2,308), and two "A" school-qualified groups who attended "A" school at the same time as did the JOBS groups. One "A" school group was comprised of recruits who entered "A" school immediately after completion of recruit training (N = 1,050); and the other, of those who completed apprenticeship training and spent some time in the fleet before entering "A" school (N = 276).

Findings

1. Demographic data collected showed that JOBS groups included twice as many minorities as did the "A" school groups.

2. The mean AFQT score of the "A" school-qualified group was approximately 29 points higher than that of the JOBS group, although approximately 20 percent more of the JOBS group had received high school diplomas.

3. Of the 1,551 JOBS-qualified students who have attended JOBS school, 1,493 (96%) have graduated and 58 (4%) have attrited. The majority of attrites were for disciplinary reasons.

4. The JOBS delayed-track group had a significantly higher number of attrites from JOBS school than did the JOBS direct-track group.

5. Of the 1,493 JOBS graduates, "A" school data are available for 1,256. Of these, 996 (79%) have graduated and 260 (21%) have attrited. Comparable figures for the "A" school comparison group are 90 and 10 percent.

6. On six of the seven job performance criteria (all but the military bearing and conduct criterion), the "A" school group received slightly higher mean ratings than did the JOBS group.

7. Thirty-three months after the JOBS and "A" school comparison groups had graduated from "A" school, the "A" school group had over twice as many fleet discharges as did the JOBS group, thus reducing the total loss rate between the two groups to only 3 percent.

Conclusions

It appears that the JOBS program has the potential for attenuating Navy technical manpower shortages and contributing to minority upward mobility. Considering the significantly lower fleet discharge rate of the JOBS group, the Navy may be unduly constraining its manpower options by excluding these personnel from consideration as eligible for technical training.

Recommendations

1. Examine the effectiveness of JOBS as a remedial program for "A" school-qualified attrites (currently being explored by the Chief of Naval Technical Training).

2. Conduct cost/benefit analysis of the JOBS training program (currently being done by NAVPERSRANDCEN).

3. Expand the JOBS program to address additional ratings (currently being done by the Chief of Naval Education and Training).

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INTRODUCTION

Problem

The job-oriented basic skills (JOBS) program was conceived in 1977 in response to the widely predicted shortfall in high quality accessions (individuals with a high school diploma scoring in mental categories I, II, or upper III on the Armed Services Vocational Aptitude Battery (ASVAB)) in the 1980s. Although recent improvements in military compensation and benefits are reducing this problem, the Congressional Budget Office[1] still forecasts a shortfall in high quality accessions of about 5 percent per year through 1986. This is attributed to Congressionally mandated limits on the number of entering recruits scoring in the lower mental aptitude categories on the ASVAB.

Although this shortfall could be dealt with by seeking relief from these limits, this would result in a proportional decrease in recruits now eligible for Navy technical training. Minimum ASVAB scores required for entry into Navy technical schools vary, based on the level of aptitude thought to be required to complete successfully each school curriculum. However, these scores serve as only general indicators of aptitude, which have been established by the Navy to minimize academic failure and/or setback. Indeed, in cases where the prospective student appears to be highly motivated or has performed particularly well in a fleet assignment, ASVAB entry requirements are lowered up to three points per subtest below minimum required levels. Given that these waivered students, as a group, have a lower technical school attrition rate than do their ASVAB-qualified cohorts, some argument can be made for exploring the conditions that enable them to complete the Navy's technical schools successfully. Aside from the motivational and aptitude requirements that are somewhat inherent in most learning situations, it may be that these students score in the ASVAB lower mental aptitude categories because they are deficient in the necessary basic or prerequisite skills required to learn the higher order skills taught in the technical schools. Identification of these job-oriented basic/prerequisite skill deficits and the implementation of an instructional program may enable these students to complete the Navy's technical schools successfully, thus helping to diminish the shortage of technically trained personnel.

If recent and projected increases in compensation and benefits should succeed in eliminating the projected shortfall in quality recruits, the JOBS program could still be useful. For example, it could be used to train lower aptitude recruits during mobilization, when higher end strengths could well result in a proportionately larger number of such recruits. Also, it could be used as a Navy upward mobility initiative, in cases when ethnic minorities are disproportionately represented in technical ratings.

Background

The purpose of the JOBS program was to determine whether job-oriented basic/requisite skills training would enable low aptitude students to increase their mastery of the prerequisite skills and knowledge they need to complete selected "A" schools successfully and perform to standard in the fleet. The "A" schools selected for curriculum development were those covering four training areas (strands)--propulsion engineering (PE), operations (OPS), administrative/clerical (A/C), and electricity/electronics (E/E). Table 1 shows the ratings included in each strand. A detailed description of curriculum development appears in Harding, Mogford, Melching, and Showel (1981).

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[1]Resources for Defense: A Review of Key Issues for Fiscal Year 1982-1986. Congressional Budget Office Study, January 1981.

Table 1

JOBS Strands, Ratings Included, and Selection Criteria

Strand	Ratings Included	AFQT Score	Selection Criteria ASVAB Composite Scores[a]		Other[b]
Propulsion Engineering (4 weeks)[c]	Boiler Technician (BT) Engineman (EN) Machinist's mate (MM)	37 or less	Series 5/6/7: Series 8/9/10:	MK + AI = 77 to 87 MK + AS = 77 to 87	None
Operations (4 weeks)[c]	Operations specialist (OS)	37 or less	Series 5/6/7: Series 8/9/10:	WK + AR = 87 to 97 VE + AR = 87 to 97	A,B,C,D,E
	Quartermaster (QM)	37 or less	Series 5/6/7: Series 8/9/10:	WK + AR = 81 to 91 VE + AR = 81 to 91	A,B,C,D,E
Administrative/ Clerical (5 weeks)[c]	Aviation storekeeper (AK)	37 or less	Series 5/6/7: Series 8/9/10:	WK + AR = 87 to 97 VE + AR = 87 to 97	None
	Personnelman (PN)	37 or less	Series 5/6/7: Series 8/9/10:	WK + AR = 93 to 103 VE + AR = 93 to 103	None
	Storekeeper (SK)	37 or less	Series 5/6/7: Series 8/9/10:	WK + AR = 87 to 97 VE + AR = 87 to 97	None
	Yeoman (YN)	37 or less	Series 5/6/7: Series 8/9/10:	WK + NO + AD = 144 to 154 VE + NO + GS = 144 to 154	D,E
Electricity/ Electronics[d] (8 weeks)[c]	Aviation antisubmarine warfare technician (AX) Aviation electronics technician (AT) Aviation fire control technician (AQ)	37 or less	Series 5/6/7 and 8/9/10:	MK + EI + GS = 145 to 155	A,D,E

[a]From ASVAB Subtests: MK = Mathematics Knowledge, AI = Automotive Information, AS = Automotive and Shop Information, WK = Work Knowledge, AR = Arithmetic Reasoning, VE = Verbal, NO = Numerical Operations, AD = Attention to Detail, GS = General Science, EI = Electronics Information.

[b]A = Have normal color perception (NCP), B = Have minimum auditory requirements in accordance with the Manual of the Medical Department (P117), C = Have vision correctible to 20/20, D = Be a U.S. citizen, and E = Be eligible for a security clearance.

[c]The JOBS training week consisted of 30 hours of lock-step instruction, with after-hours remediation.

[d]In this strand, materials were developed to prepare the student for the Basic Electronic and Electricity (BE/E) and Avionics (AV) courses, which are common to the AX, AT, and AQ ratings.

The concept of prerequisite job-related skills training is not new to the military. The U.S. Army developed a job-oriented reading program called FLIT (functional literacy), which was designed to provide a level of functional literacy appropriate to minimal job/task reading requirements found in major clusters of common, high-density, Army military occupational specialties (Sticht, 1975). FLIT was the first major effort to move from a general remedial education approach to job-related training in basic/prerequisite skills. However, it was used only to teach job-related reading skills. It was sucessful in improving job reading skills by approximately two reading grade levels (RGLs).

The Army National Guard, which includes a substantial number of personnel with reading skills below the 7.0 grade level, implemented a modified version of the Army's advanced individual preparatory training program, which included both job reading tasks and basic reading skills segments (Fox, McGuire, Joyner, & Funk, 1976). As with the Army's FLIT program, the Army National Guard program also succeeded in raising a participant's reading skills by two RGLs.

The Air Force also developed a job-relevant reading program (Huff, Sticht, & Joyner, 1976) entitled JORP (Job-oriented Reading Program). JORP was similar to FLIT except that it focused on personnel with somewhat higher RGLs and trained for reading tasks found not only on the job but also in career development courses.

Aiken, Duffy, and Nugent (1977), in a study of the influence of reading skill on performance in Navy "A" schools, tested students in 10 Navy "A" schools and in the Basic Electricity and Electronics Preparatory Course. Results showed wide ranges in the reading skill related to course performance, as well as in the amount and difficulty of the reading assigned. These results show that (1) significant numbers of Navy personnel who are deficient in reading skills are being assigned large amounts of reading tasks and (2) reading skill is predictive of successful course performance. Later studies provided information on the nature and extent of reading in the Navy and the reading skills of Navy personnel (Sticht, Fox, Hauke, & Zapf, 1977a) and a general plan for development of a job-oriented reading training program (Sticht et al., 1977b).

Given the reading deficiencies found among the Navy recruits and the possible Navy requirement for broader use of lower aptitude personnel to help alleviate manpower shortages in technical areas, it was judged potentially beneficial for the Navy to develop the JOBS program, which would further expand upon the Army/Air Force concept of job-oriented basic/prerequisite skills training.

Objective

The objective of this effort was to evaluate the JOBS program to determine whether it can compensate for the skill deficiencies of lower aptitude personnel such that they can successfully complete Navy technical schools and perform to standard in the fleet. Preliminary results of this evaluation were described in a previous report (Baker & Huff, 1981).

APPROACH

Participants

JOBS Groups

Potential candidates for the JOBS program were identified during classification processing at recruit training. Classifiers at Naval Training Centers (NTCs), San Diego,

California, Great Lakes, Illinois, and Orlando, Florida interviewed incoming recruits for the JOBS program. Eligibility was established based on scores achieved on the Armed Forces Qualification Test (AFQT) and the ASVAB composite tests required for entrance into a given Class "A" school. All candidates were below the maximum allowable ASVAB composite waiver limit for the "A" school for which they were being considered but within the range established for JOBS eligibility for a particular rating (see Table 1).

During the period from May 1977 through June 1981, a total of 5,326 JOBS-eligible candidates were identified and briefed on the purpose and potential benefits of the JOBS program.[2] As a result, 3,018 persons volunteered for the program, and 2,308 did not. The latter group continued with the training sequence for nonschool-qualified recruits, ultimately to be part of the Navy's general detail (GENDET) force.

The 3,018 JOBS volunteers were randomly assigned to one of two JOBS training sequences, referred to as direct and delayed-track groups. Those in the JOBS direct-track group (N = 1,216) were to be sent to the JOBS school immediately following recruit training; and those in the JOBS delayed-track group (N = 1,802), after they had attended apprenticeship training and spent time in the fleet (the majority between 5 and 8 months). Upon successful completion of the JOBS school, students in both groups would attend their selected Class "A" schools and, if successful there, be assigned to the fleet as a designated striker. If they failed anywhere in the training pipeline, they would be sent to the GENDET force.

Comparison Groups

Three groups were formed with whom JOBS student performance could be compared. The first group, called the fleet control group, consisted of the 2,308 JOBS-eligible recruits who did not volunteer for the program. The other two groups were to consist of "A" school students attending the "A" school during the same period as the JOBS students. The first "A" school group would consist of ASVAB-qualified recruits selected to enter "A" school immediately after completing recruit training (direct-track); and the second, of ASVAB-qualified students selected to complete recruit and apprenticeship training and then serve in the fleet before attending "A" school (delayed-track).

Data Collection Procedures and Variables

Data were collected for members of the various experimental and comparison groups at five collection points: (1) during recruit classification (all groups), (2) before they entered JOBS training (JOBS delayed-track and fleet control groups), (3) during JOBS training (JOBS direct-track and delayed-track groups), (4) during "A" school training (JOBS and "A" school groups), and (5) after they finished "A" school and had been assigned to the fleet (JOBS and "A" school groups). Variables collected at each of these points are listed in Table 2; data collection procedures are discussed below.

1. Recruit classification. During the first year of program operation, NTC classifiers entered information from a recruit's personnel records onto specially developed forms and then forwarded these forms to the Navy Personnel Research and Development Center (NAVPERSRANDCEN). During the second year, the classifiers, using computer programs developed by the Navy Military Personnel Command (NMPC), supplied recruit

[2]Although additional personnel have entered the JOBS program since June 1981, their progress is being tracked by the Chief of Naval Education and Training (CNET), who became program manager in October 1980.

Table 2

Variables Collected for Group Members at Data Collection Points

During Recruit Classification	Pre-JOBS Training	During JOBS Training	During "A" School Training	Post "A" School Training--Fleet Performance
Social security number Years of education Education certificate Ethnic background Race ASVAB scores/series Date of birth Date of classification "A" school preferences AFQT score (renormal) Reading grade level Rate Group assignment (track) Classification site (All groups)	Discharge (reason and date) (JOBS delayed-track and fleet control groups)	Preevaluation test Postevaluation test Training site Date convened Date graduated Date attrited (reason) Number discipline actions Curriculum revision (JOBS direct-track and delayed-track groups)	All schools Rate School attended Date convened Date graduated Date attrited (reason) Number of Academic Review Board Last duty station Additional variables by school OS, QM: Number of setbacks Total length of schools Final school grade Class standing AK, PN, SK, YN: Number contract days to completion Number days to typing criterion BT, EN, MM: Final basic completion score Final "A" completion score Final overall average score Days to complete basic (PE) Days to complete "A" BE/E, AV "A": Predicted contact time Actual contact time Final comprehensive (JOBS and "A" school groups)	Type of tasks assigned Performance on tasks assigned Skill/knowledge required Amount of supervision required Military bearing/conduct PQS progress Time on station Third class exam scores Reenlistment recommendation Reenlistment rate (JOBS and "A" school groups)

information directly to the Navy's Computer Assisted Assignment Program (COMPASS). A summary report (computer listing) was then produced and mailed to NAVPERSRANDCEN. Data for the "A" school groups were obtained from the enlisted master tape (EMT) as the names and social security numbers of those randomly selected for these groups became available.

2. Pre-JOBS training. Whenever members of JOBS delayed-track and fleet control groups were discharged, the discharge date and reason for discharge were obtained from the master active duty and loss files maintained by the Department of Defense Manpower Data Center (DMDC) in Monterey, California and from OPNAV's survival tracking file. Computer searches were made periodically to update discharge information.

3. During JOBS school. During the early months of the program, graduation and attrition data were forwarded to NAVPERSRANDCEN directly from the JOBS school. Later, these data were obtained from OPNAV's survival tracking file.

4. During "A" schools. Graduation and attrition data for JOBS and "A" school-qualified groups were obtained from OPNAV's survival tracking file.

5. After "A" school--fleet performance. This information was obtained from a questionnaire mailed to each subject's supervisor. Supervisors were asked to rate subjects in six areas (e.g., military bearing and conduct), using a 4-point scale ranging from "unacceptable" to "outstanding," and to indicate whether or not they would recommend that subjects be reenlisted. A copy of the survey questionnaire appears in the appendix.

JOBS Training

During the period from 31 August 1979 to 3 April 1981, JOBS training in all curriculum strands was conducted exclusively at NTC San Diego. On 6 April 1981, three additional JOBS training sites were established by the Chief of Naval Technical Training in accordance with the OPNAV JOBS transition plan (1980). These sites were at NTC Great Lakes, Illinois and at the Naval Technical Training Centers at Meridian, Mississippi and Millington, Tennessee.

Training procedures were the same at each location. Contracted civilian instructors were obtained from local educational institutions. JOBS training materials were supplied to instructors along with detailed guides explaining the sequence, content, and procedures to be followed in the classrooms. The instructor/student ratio was approximately 1:10. The host training center supplied all instructional facilities and was responsible for housing and boarding the students. The military retained control of all administrative functions and handled any disciplinary actions that arose.

RESULTS AND DISCUSSION

As of March 1982, 1,551 (51%) of the 3,018 JOBS volunteers (1,014 direct-track and 537 delayed-track) had been enrolled in JOBS training.[3] Of these, 1,256 recruits were subsequently enrolled in "A" school training.[4]

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[3]As of March 1982, 202 direct-track students had not yet entered the JOBS school due to school quotas or other reasons, and 1,265 indirect-track students had not yet returned from the fleet to attend JOBS school.

[4]Of the remaining students, 58 had attrited from JOBS school and 237 did not attend "A" school.

Although the number of subjects in both the JOBS and "A" school-qualified groups has increased significantly since the preliminary JOBS evaluation results were reported (Baker & Huff, 1981), the percentages in Table 3, which presents the background characteristics of the experimental and comparison groups, are essentially the same. As before, over half of the students in the JOBS groups are minorities, compared to less than 20 percent of the "A" school groups. Also, the mean AFQT score of the "A" school groups is approximately 29 points higher than that of the JOBS groups, in spite of the fact that about 89 percent of the JOBS students had high school diplomas, compared to about 68 percent of the "A" school students. The fact that a number of JOBS students have high school diplomas is not surprising when one considers that these mental category IV recruits are required to possess a high school diploma for admission into the Navy.

Table 3

Background Characteristics of Experimental and Comparison Groups

Variable	Group JOBS Direct-track (N = 1,014)	JOBS Delayed-track (N = 537)	"A" School-qualified Direct-track (N = 1,050)	"A" School-qualified Delayed track (N = 276)	Fleet Control (N = 2,308)
Race/Ethnic					
Caucasian	42.6	42.8	81.9	84.1	48.2
Black	44.3	48.8	12.5	13.0	42.0
Hispanic	7.1	3.7	3.2	1.4	7.0
Other Minority	6.0	4.7	2.3	1.4	2.9
	100.0	100.0	99.9	99.9	100.1
Mental Category					
I	--	--	1.7	2.3	--
II	0.5	0.2	29.6	24.9	--
III upper	3.0	0.6	26.4	26.4	0.3
III lower	16.6	3.1	22.9	26.4	3.4
IV upper	35.7	46.0	10.1	14.6	45.4
IV lower	44.2	50.2	9.4	5.0	50.8
V	--	--	--	0.4	0.1
	100.0	100.1	101.1	100.0	100.0
Mean AFQT	23.8	21.3	52.1	51.5	21.1
Education					
No diploma	4.5	7.2	20.1	17.4	6.8
GED	4.8	1.9	10.6	10.2	4.2
HS diploma	88.8	90.4	66.7	71.6	88.6
Post HS degree	1.8	0.6	2.5	0.8	0.4
	99.9	100.1	99.9	100.0	100.0

Note. All percentages do not equal 100 because of rounding.

Since the preliminary results were reported, the number of students who have attended the JOBS school has nearly doubled (873 vs. 1,551) and the attrition has decreased from 4.8 to 3.7 percent. Table 4 presents the overall attrition and graduation percentages of JOBS school students by strand and by track. As shown, of the 1,551 students who have attended JOBS school since July 1979, 1,493 (96%) have graduated and 58 (4%) have attrited. Eleven (19%) of the attrites were for academic reasons, 36 (62%) for nonacademic reasons, and 11 (19%) for other reasons. It is interesting to note that the majority of the nonacademic actions involve the delayed-track group. Not surprisingly, students who have spent 5 to 8 months on board ship appear to be less manageable than those coming directly from the more disciplined recruit training environment.

Table 4

Attrition in JOBS School

Item	Total[a] N	Graduates N	Graduates (%)	Attrites N	Attrites (%)
By Strand					
Propulsion engineering	591	574	97.0	17	3.0
Operations	280	264	94.3	16	5.7
Administrative/clerical	478	465	97.0	13	3.0
Electricity/electronics	202	190	94.0	12	6.0
Total	1551	1493	96.3	58	3.7
By Track					
Direct-track	1014	998	98.4	16	1.6
Delayed-track	537	495	92.1	42	7.9
Total	1551	1493	96.3	58	3.7

[a]Of this total, 678 JOBS students were added since the preliminary results were reported (Baker & Huff, 1981). Of these, 662 graduated and 16 attrited.

Since the purpose of the JOBS program is to prepare lower-aptitude students for Class "A" school technical training, the real indicator of JOBS program success is the number of JOBS students who successfully complete the Class "A" schools for which JOBS training is preparatory. Preliminary analyses showed that the background characteristics of the two JOBS groups were nearly identical and their performance and attrition comparisons in Class "A" school showed no significant differences. Thus, for purposes of data analyses, the two groups were combined to increase the relatively low sample sizes for each "A" school.[5] The direct- and delayed-track "A" school comparison groups were also combined for the same reason.

Table 5 presents the "A" school graduation and attrition percentages of the JOBS and "A" school groups. Of the 1,256 JOBS graduates who enrolled in "A" school, 996 (79%) have graduated and 260 (21%) have attrited. Of the attrites, 157 (60%) left for academic reasons; 93 (36%), for nonacademic reasons; and 10 (4%), for other reasons. Of the 1,326 students in the "A" school comparison group, 1,194 (90%) have graduated and 132 (10%) have attrited. Of the attrites, 40 (30%) left for academic reasons; 84 (64%), for nonacademic reasons; and 8 (6%), for other reasons. The attrition across "A" schools decreased 4 percent (21 vs. 25) for the JOBS group and 3 percent for the "A" school-qualified group (10 vs. 13) since the first JOBS evaluation.

Attrition varied considerably across "A" schools. For the JOBS group, it ranged from a low of 8 percent in the SK course to a high of 33 percent in the BE/E school. In every instance, the attrition of the JOBS group exceeded that of the "A" school comparison group; however, the attrition differences between the two groups dropped from that reported previously (Baker & Huff, 1981) in six of the nine "A" schools (all but PN, QM, and SK) and in the BE/E school. The AK and BE/E drops in attrition difference were most dramatic, falling 15 and 27 percentage points respectively. Increases in attrition differences between the two groups for the PN, QM, and SK ratings were 2, 5, and 3 points respectively.

The overall "A" school attrition rate for the JOBS group is still approximately twice that for the "A" school-qualified comparison group--21 vs. 10 percent. However, this result is quite promising considering the massive aptitude differences between the groups. As was expected, JOBS graduates attrited from "A" school primarily for academic reasons. The converse was true for the "A" school comparison group.

When preliminary results of the JOBS evaluation were reported (Baker & Huff, 1981), the JOBS groups included only the 2,212 recruits who entered the program between May 1977 and April 1981. In this report, the JOBS groups also included the 806 recruits who entered the program during May and June 1981. Of these, 678 attended JOBS school (Table 4) and 601 eventually enrolled in "A" school (Table 5). An examination of these students and those in the original JOBS group who attended JOBS and "A" schools (N = 873 and 655 respectively) showed that the second group had significantly lower JOBS and "A" school attrition percentages. Of the original JOBS group, 4.8 percent (N = 42) attrited from JOBS school and 25 percent (N = 163) across the 12 "A" schools, compared to 2.4 percent (N = 16) and 16 percent (N = 96) for the second group. Similar decreases in

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[5]The lack of performance and attrition differences in the Class "A" schools between the direct- and delayed-track JOBS groups sharply contrasts with the large attrition differences found for these groups at the JOBS school. This may be due, at least in part, to the fact that most of the problem cases in this group had already attrited during JOBS training.

Table 5

"A" School Graduation and Attrition for JOBS and "A" School Groups

"A" School[a]	JOBS Group (Direct and Delayed) N	Grad. (%)	Attr. (%)	"A" School Group (Direct and Delayed) N	Grad. (%)	Attr. (%)	Percent Difference (JOBS-"A")
Aviation storekeeper (AK)	76	89	11	81	99	1	-10
Basic electronics/electricity (BE/E)	84	67	33	22[b]	86	14	-19
Boiler technician (BT)	158	69	31	230	79	21	-10
Engineman (EN)	147	88	12	149	95	5	-7
Machinist's mate (MM)	243	75	25	267	83	17	-8
Operations/specialist (OS)	152	79	21	121	97	3	-18
Personnelman (PN)	137	82	18	142	92	8	-10
Quartermaster (QM)	66	73	27	90	100	0	-27
Storekeeper (SK)	81	92	8	92	97	3	-5
Yeoman (YN)	112	85	15	132	93	7	-8
Overall	1,256[c]	79	21	1,326	90	10	-11
		(N=996)	(N=260)		(N=1,194)	(N=132)	

Reason for attrition	N	(%)	N	(%)
Academic	157	60	40	30
Nonacademic	93	36	84	64
Medical/other	10	4	8	6
	260	100	132	100

[a]All "A" schools except BE/E prerequisite school, which is common to the AT, AQ, and AX ratings.

[b]The number of "A" school qualified individuals has decreased by three from the first JOBS evaluation because three individuals were originally misclassified.

[c]Of this total, 601 JOBS students were added since the preliminary results were reported (Baker & Huff, 1981). Of these, 505 graduated and 96 attrited.

attrition were found between the "A" school groups included in the preliminary and current evaluations, with the former group's attrition being 13 percent and the latter, 3 percent. Since the demographic data for the second group (Table 3) is not significantly different from that obtained for the first group, the difference in attrition apparently is not due to a higher quality recruit entering the service during the latter time period. Further, since lowered attrition occurred in both the JOBS and "A" school-qualified "second" groups, it cannot be attributed to an increased effectiveness of the JOBS program. The reduced attrition in "A" school may be because "A" school graduation standards had been reduced during the latter time period; the reduced attrition in JOBS school may be because the curricula used for the second group had been modified based upon formative evaluation data. A significant portion of the first JOBS group had used draft curricula.

As of June 1982, surveys had been returned for 379 JOBS students and 695 "A" school comparison students who had graduated from "A" school and had been assigned to the fleet. As shown in Table 6, the "A" school group received slightly higher mean ratings on six of the seven criteria. However, in all cases, JOBS personnel ratings were within the acceptable range. Apparently first-line supervisors feel there is little difference between the groups in performing as designated strikers. In fact, the mean ratings given to both groups as to reenlistment recommendations ranged between "probably yes" and "definitely yes."

Table 6

Mean Supervisory Ratings for JOBS and "A" School Groups During First Year Fleet Performance as Designated Strikers

Variable	JOBS Group Mean[a]	JOBS Group N	"A" School-qual. Group Mean[a]	"A" School-qual. Group N
1. Types of tasks assigned to rating	3.01	379	3.12	693
2. Work quality on assigned tasks	3.01	379	3.16	695
3. Skill and knowledge required to perform in this rating	2.82	378	3.04	694
4. Supervision required to complete assigned task	3.04	378	3.16	695
5. Military bearing and conduct	2.93	379	2.91	694
6. PQS progress (watch status)	2.82	369	2.98	654
7. Reenlistment recommendation	3.21	375	3.29	690

Note. Data as of June 1982.

[a]For variables 1-6, means are based on responses to a 4-point scale, where 1 = unacceptable and 4 = outstanding. For variable 7, means are based on responses to a 4-point scale, where 1 = definitely not and 4 = definitely yes.

Although the fleet performance of the JOBS group was rated slightly lower than that of the "A" school comparison group, the fleet attrition data for the two groups present quite a different picture. As shown in Figure 1, 33 months after graduating from "A" school, the number of discharges for "A" school groups was twice as high as that for the JOBS group, which may account, to some degree, for the slightly higher in supervisory mean performance ratings of the "A" school qualified group. The majority of those discharged were probably poor performers. Thus, because of the higher discharge rate of the "A" school group, there were fewer poor performers in that group available to be rated, which resulted in slightly higher mean performance ratings for the remaining students.

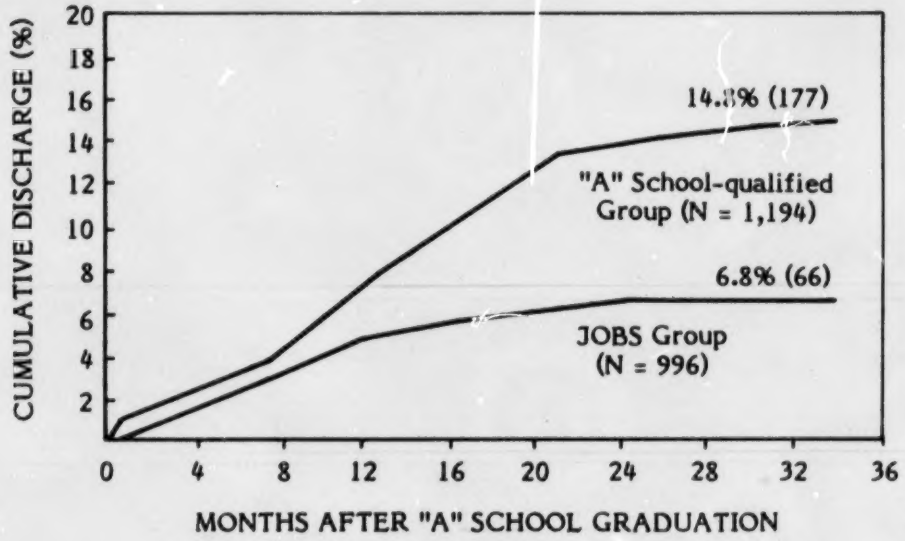

Figure 1. Comulative discharge percentages of JOBS and "A" school groups who have been in the fleet at least 33 months after "A" school graduation.

As shown in Table 7, the significantly lower fleet discharge rate for the JOBS group offsets their significantl high "A" school attrition rate, bringing the total loss difference between the JOBS and "A" school-qualified groups to only 3 percent. In addition, a case may be made for preferring the higher loss rate in the "A" school, rather than the fleet, as less of a training investment has been made at that time. Further, individuals who attrite from "A" schools are not lost to the Navy but, rather, are sent to the fleet. As shown in Table 7, in the JOBS groups, 23 percent of the "A" school attrites who returned to the fleet were discharged, compared to 39 percent of the "A" school group. Overall, the significantly lower number of discharges from the JOBS group may be the result of unexpected job satisfaction experienced by these lower aptitude personnel. Also, they may feel that, although they are working successfully as technicians in the Navy, they may not be as well accepted in the civilian world where they may have experienced a long history of failure.

Table 7

Total Loss of Rated Personnel from "A" School

Group	"A" School Input	"A" School[a] Attrition	Fleet Discharge	Total Loss of Rated Personnel
JOBS	1,256	260	66	326 (26%)
"A" School-qualified	1,326	132	177	309 (23%)

[a]In the JOBS group, 59 (23%) of "A" school attrites were subsequently discharged, compared to 52 (39%) for the "A" school group.

CONCLUSIONS

It appears that the JOBS program has the potential for attenuating Navy technical manpower shortages and contributing to minority upward mobility. Considering the significantly lower fleet discharge rate of the JOBS group, the Navy may be unduly constraining its manpower options by excluding these personnel from consideration as eligible for technical training.

RECOMMENDATIONS

1. Examine the effectiveness of JOBS as a remedial program for "A" school-qualified attrites (currently being examined by the Chief of Naval Technical Training).

2. Conduct a cost/benefit analysis of the JOBS training program (currently being done by NAVPERSRANDCEN).

3. Expand the JOBS program to address additional ratings (currently being done by the Chief of Naval Education and Training).

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APPENDIX

FLEET PERFORMANCE RATING REPORT

Fleet 1-9-25-80

OPNAV Report Symbol
1514-2

SI= _____(9)

Name_____

Key Punch Skip
(Affix Gummed Label Here)

FLEET PERFORMANCE RATING REPORT

MAILING INSTRUCTIONS

Request this report be completed and returned within two weeks after receipt. Forward completed form in the envelope provided. Mail to:

Commanding Officer
Navy Personnel Research and Development Center
San Diego, CA 92152
(Autovon 933-2371) ATTN: Marc Hamovitch (Code 15)

EVALUATION

Evaluate member identified above on the following characteristics. Compare him or her with others of the same rating and rate. Evaluate member based on typical performance. Circle only one response per item.

Characteristic	1 Unacceptable	2 Marginal	3 Satisfactory	4 Outstanding	For NPRDC use only
1. Type of tasks assigned in rating	Given menial tasks outside rate/rating	Given tasks at the lowest level in this rating and rate	Given tasks typical of this rating and rate	Given tasks at the highest level in this rating and rate.	1.XA=____(1)
2. Work quality on assigned tasks	Unacceptable Work has to be re-done	Marginal Work is below normal expectations	Satisfactory Work meets normal expectations	Outstanding Work exceeds normal expectations	2.XB=____(1)
3. Skill and knowledge required to perform in this rating	Unacceptable Demonstrates definite lack of skills and knowledge	Marginal Demonstrates marginally acceptable skills and knowledge	Satisfactory Demonstrates a typical grasp of skills and knowledge	Outstanding Demonstrates exceptional skills and knowledge	3.XC=____(1)
4. Supervision required to complete assigned tasks	Constant Must be supervised at all times	Excessive Requires more than normal amount of supervision	Average Requires the usual amount of supervision	Minimum Rarely requires supervision	4.XD=____(1)
5. Military bearing and conduct	Unacceptable Often violates expected standards in appearance and military behavior	Marginal Sometimes lax in conforming to expected standards in appearance and military behavior	Satisfactory Conforms to expected standards in appearance and military behavior	Outstanding Exemplar in appearance and military behavior	5.XE=____(1)
6. PQS Progress (Watch Station)	Unacceptable Far below minimum points assigned	Marginal Slightly below minimum points assigned	Satisfactory Meeting minimum points assigned	Outstanding Exceeds minimum points assigned	6.XF=____(1)

7. Considering this member's overall record of performance and conduct, would you recommend him or her for reenlistment?

1 Definitely not	2 Probably not	3 Probably yes	4 Definitely yes	
				7.XG=____(1)

ADDITIONAL INFORMATION

8. Today's Date MM / DD / YY — 8.XH=__/__/__(6) MM DD YY

9. Member's time at this duty station _____ Days — 9.XI=____(3)

10. Has member taken 3rd class exam? NO 1 / YES 2 — 10.XJ=____(1)

If YES provide: 11. Final multiple score ___.__ — 11.XK=____(5)

12. Minimum Multiple Required to advance ___.__ — 12.XL=____(5)

13. Standard Score ___ — 13.XM=____(2)

14. Has member been transferred? NO 1 / YES 2

If YES provide 15. Date transferred MM / DD / YY

16. New Command address _____

17. Has member been discharged? NO 1 / YES 2 — 17.XN=____(1)

If YES provide 18. Date discharged MM / DD / YY — 18.XO=__/__/__(6) MM DD YY

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